

Designing Urban Interfaces in the Robotic Age

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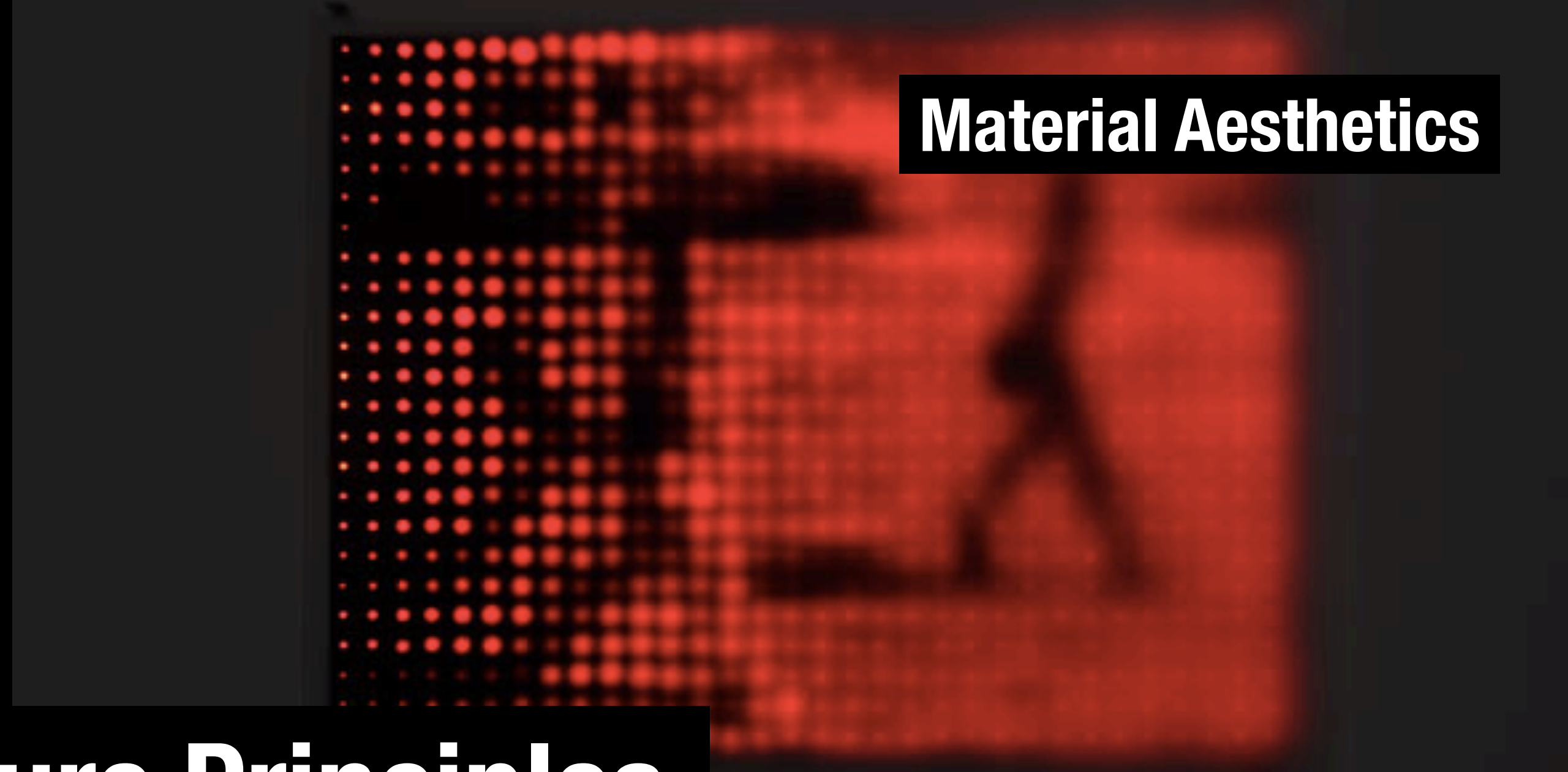


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Physical Integration

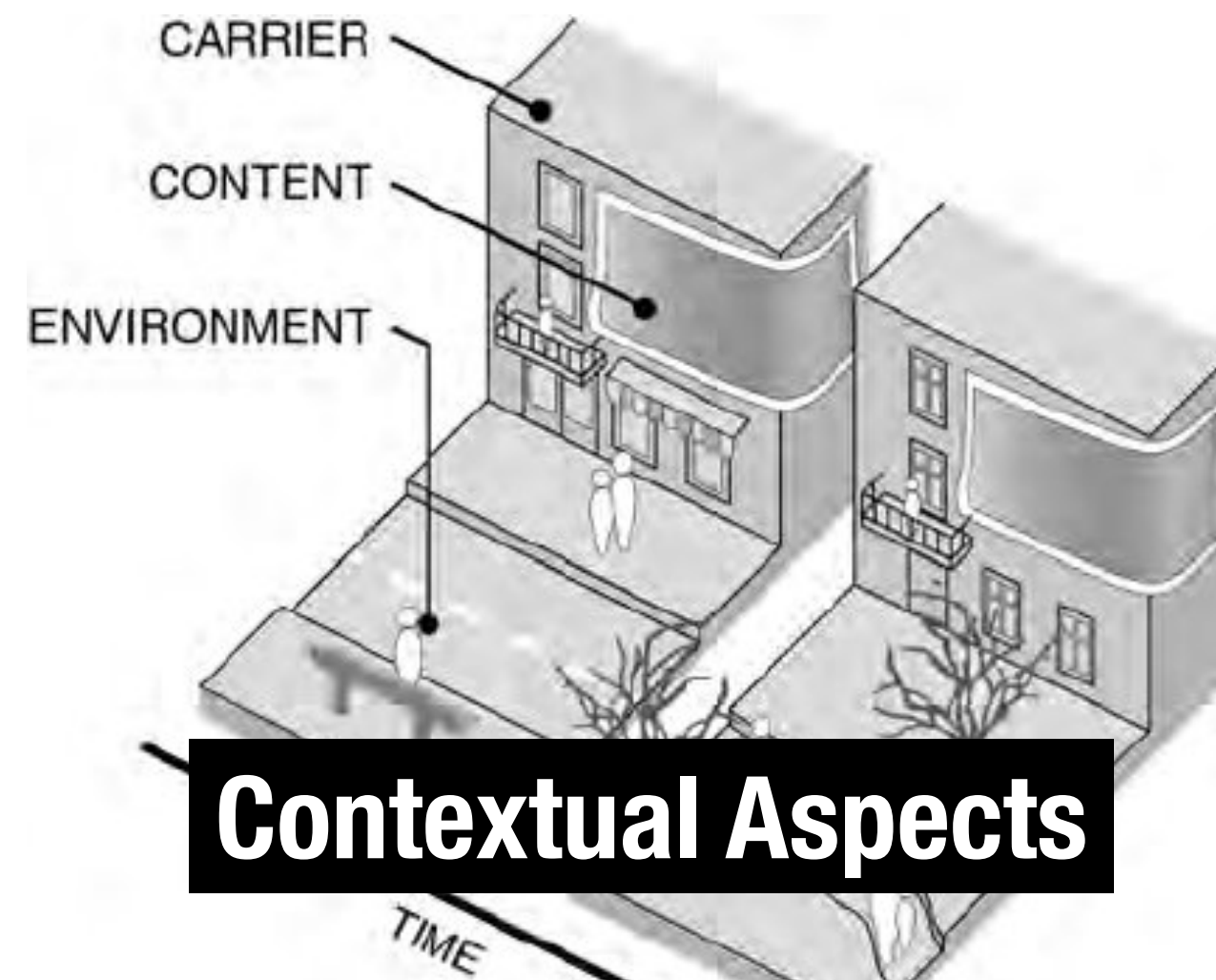


Material Aesthetics



Media Architecture Principles

Communicative & Informative Aspects



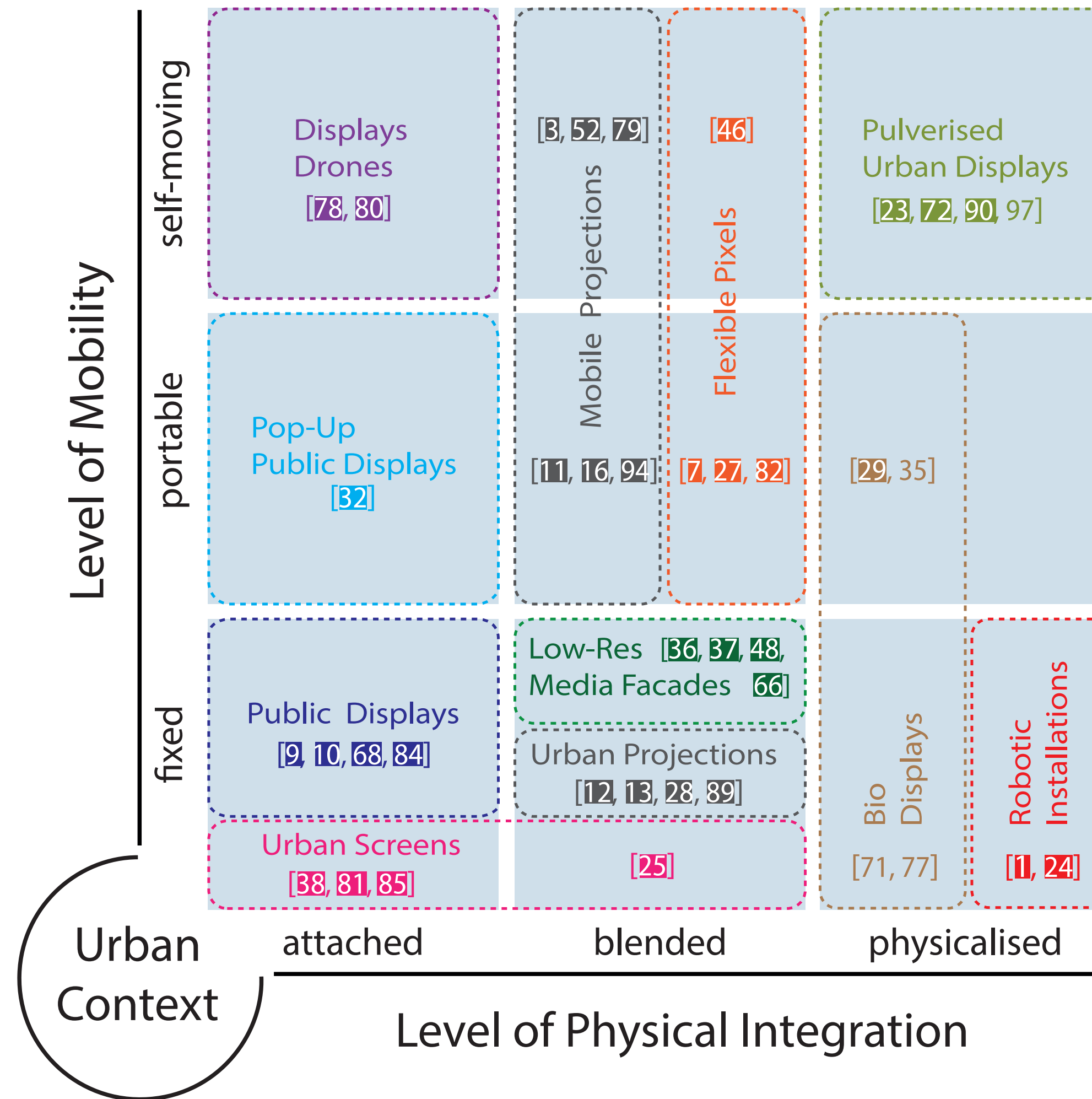
Contextual Aspects

Social Interactions



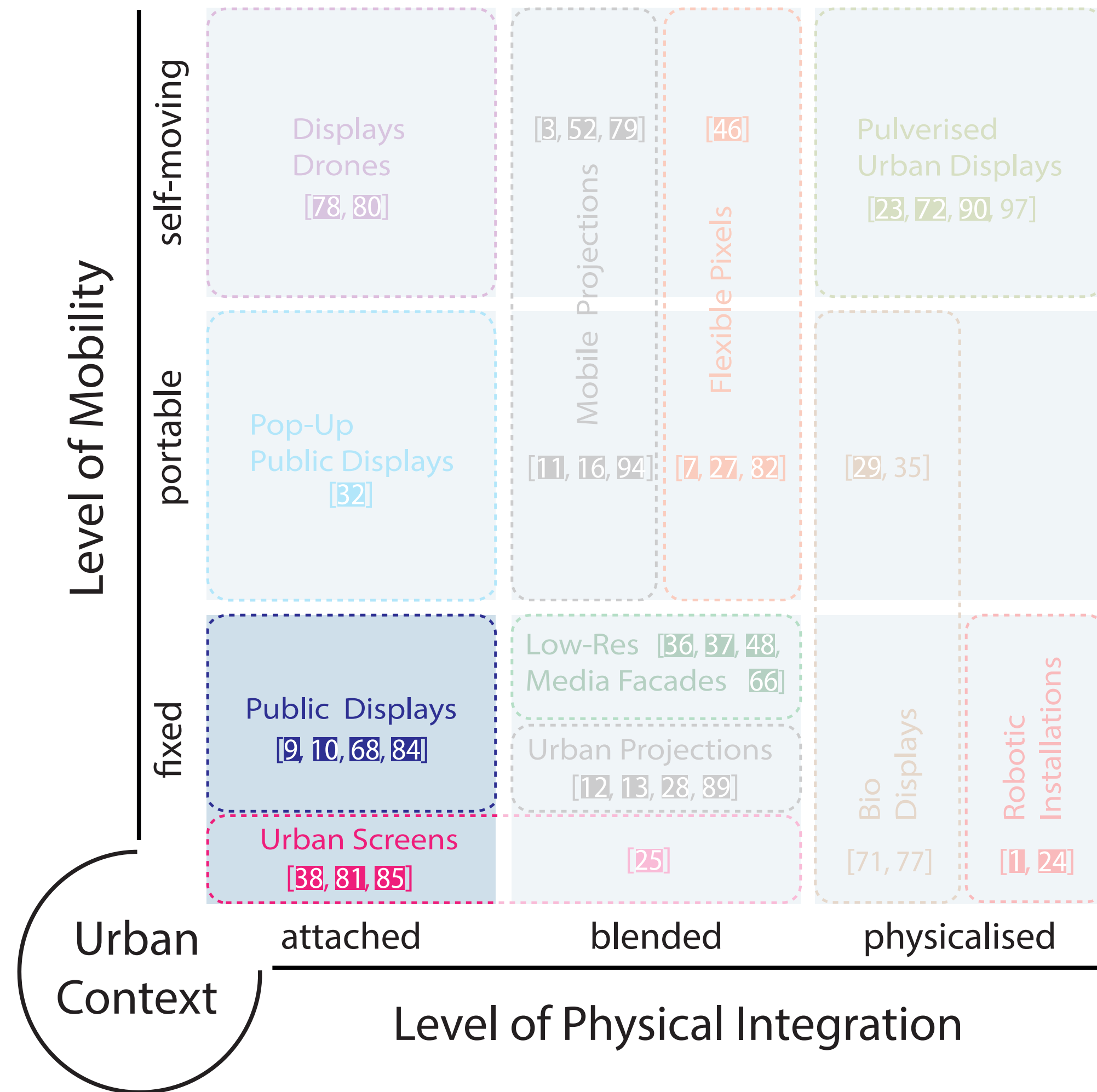
Reference: Marius Hoggenmueller, Alexander Wiethoff, Andrew Vande Moere and Martin Tomitsch. A Media Architecture Approach to Designing Shared Displays for Residential Internet-of-Things Devices. In Proceedings of the 4th ACM Conference Media Architecture Biennale (MAB '18).

Newcomers in the Pervasive Urban Display Taxonomy



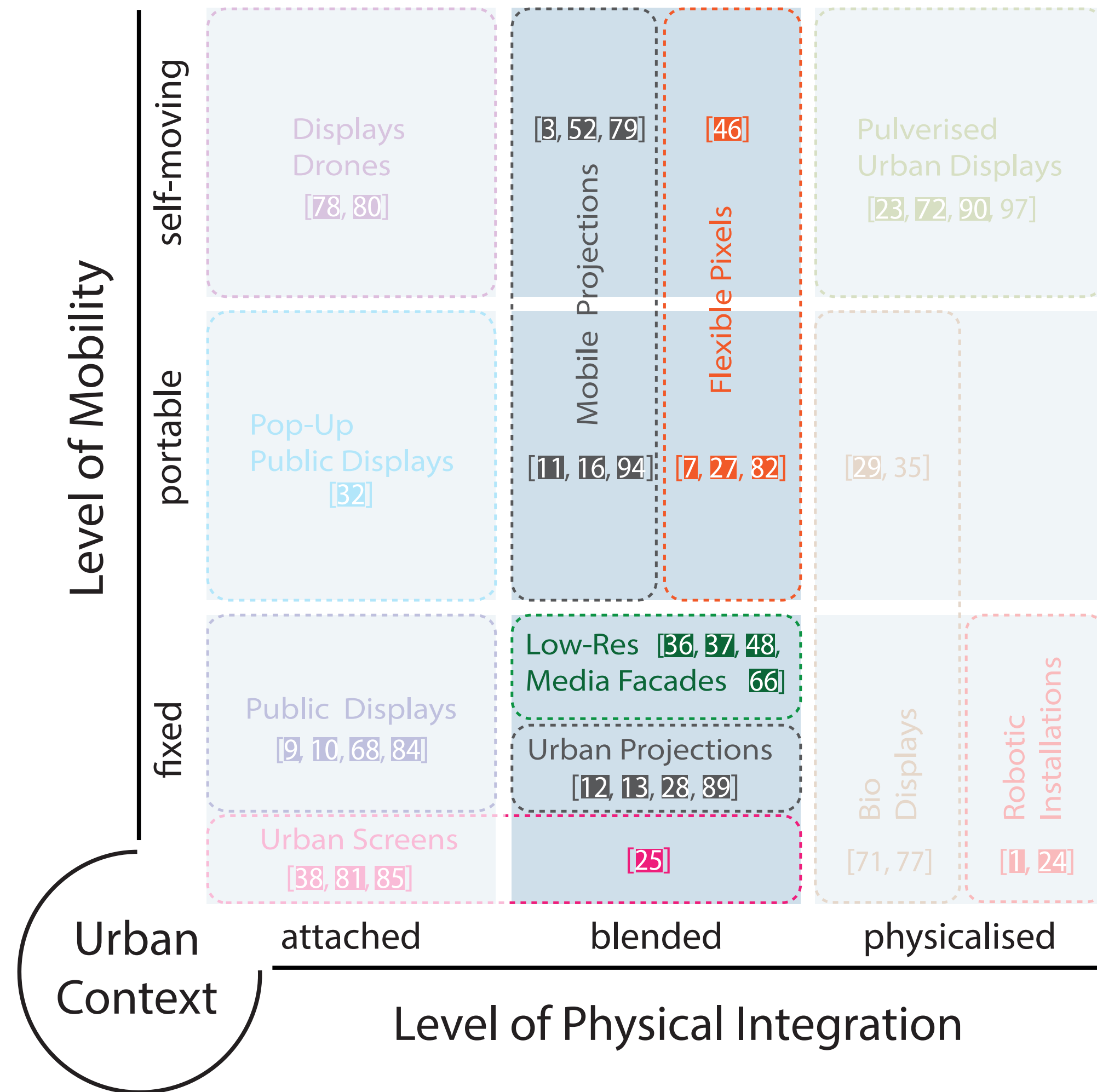
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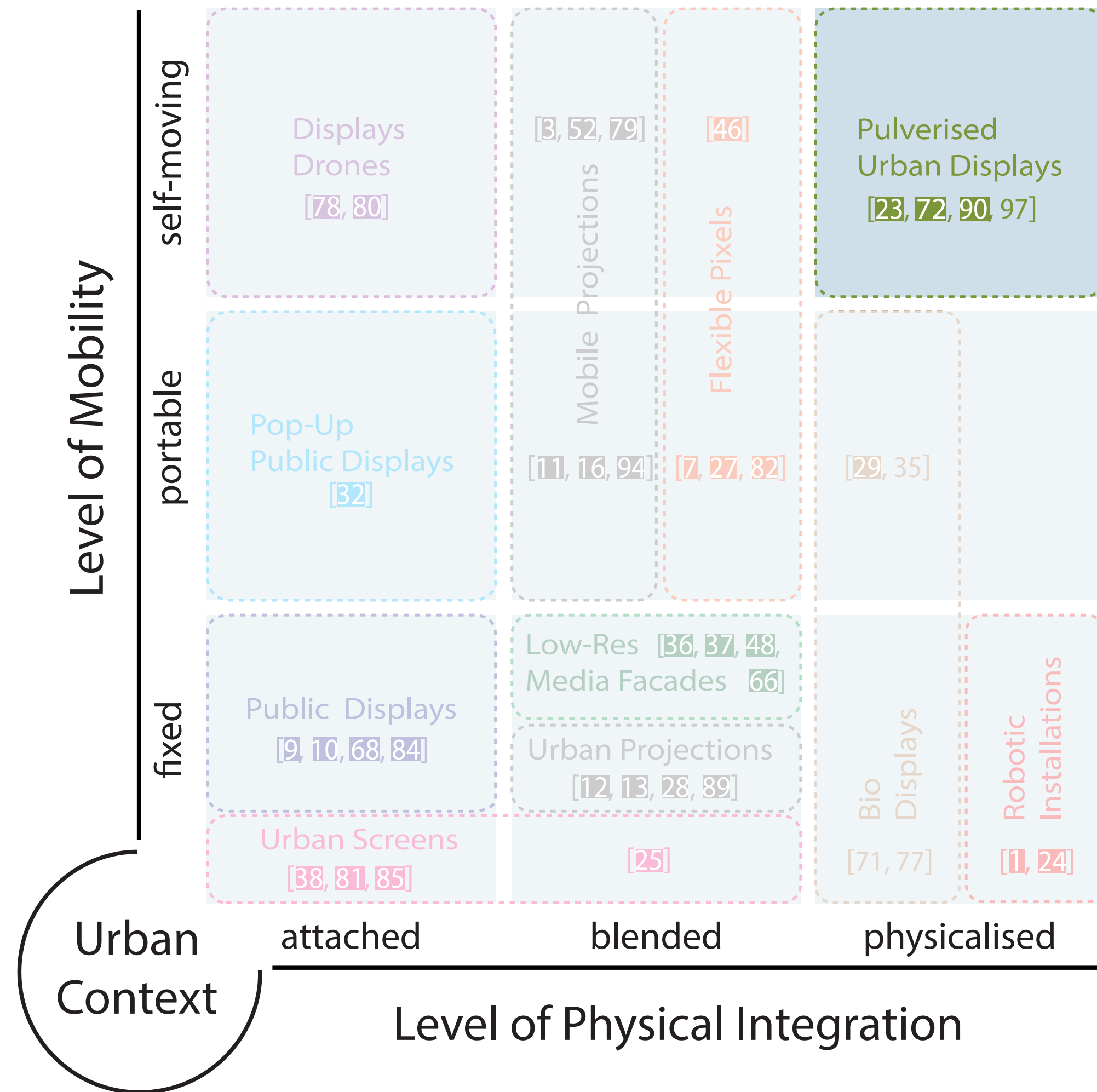
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Findings: Emotional Response



“it’s not interactive but it makes people interact, it responds to me like nature responds to me.”

Interviewee at Vivid



Emotion	Colour Pattern	Animation	Change in Luminosity	Motion
Anger		"fire spitting"	Square wave [Total duration (TD) = 0.33]	
Disgust		floating colours to symbolise liquid	n/a	
Fear		erratic floating colours	Square / sinusoid wave (mix ratio = 0.5) [TD = 8s]	
Happiness		4 bands of rotating colour	n/a	
Sadness		colour gradient	Square / sinusoid wave (mix ratio = 0.5) with 2s pause [TD = 8s]	
Surprise		pure colour	One longer blink followed by two short blinks [TD = 0.3s]	

Anger Literature: Da Pos [XX] Initial Design: Animation: colour gradient that rises up Flashing: Square wave / T=0.33s Iteration: • more organic pattern • no flashing • synchronisation of brightness & acceleration

Motion Legend high speed (1m/s) medium (0.5m/s) low (0.2m/s) ● Starting Point ○ Pause | 2 metres |

Reference: Marius Hoggenmueller, Jiahao Chen and Luke Hespanhol. Emotional Expressions of Non-Humanoid Urban Robots: The Role of Contextual Aspects on Interpretations. In Proceedings of the 9th ACM International Symposium on Pervasive Displays (PerDis '20).



Reference: Almohannad Albastaki, Marius Hoggenmueller, Frederic Anthony Robinson and Luke Hespanhol. Augmenting Remote Interviews through Virtual Experience Prototypes. In Proceedings of the 32nd Australian Conference on Human-Computer Interaction (OzCHI'20).



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